ETNA UNION HIGH SCHOOL DISTRICT

WATERSHED EDUCATION PROGRAM

USFWS Cooperative Agreement # 14-48-11333-9-J004
Project Number 99-E-04

Final Report

September 1, 1998 – December 31, 1999

By
Sue Maurer, Program Manager
Lorrie Bundy, Fish Screen Manager
Jennifer Davis Marx, Project Manager

Siskiyou Resource Conservation District

Prepared for the
U. S. Fish and Wildlife Service
Klamath Fisheries Restoration Program

December 1999

Etna Union High School District
Watershed Education Program
1998-1999

ABSTRACT

by Jennifer Davis Marx

The Etna Union High School District Watershed Education Program has been implemented for the most part by Sue Maurer, Program Coordinator. Sue's final report to the Siskiyou Resource Conservation District, here attached, includes most of the information on the project. Lorrie Bundy's part in the program is also included in that final report, as she worked closely with Sue on some of the activities. My part has to oversee the program as an RCD/CRMP project and to spend remaining funds in a way commensurate with the program's objectives.

Despite a late start due to funding delays, Sue accomplished all the objectives of the program and then some. It was an ambitious one to start with, in that there were many field activities and many players to coordinate. Sue managed to accomplish all the proposed student field activities in one form or another and many additional activities were included as the opportunities arose, such as the snow inventory. Seventeen student activities, some of them repeated ones, were accomplished in all. The photographs attest to the level of activity. Various teachers attended two different trainings. The teachers' job shadowing opportunities were reduced by the late start of the program.

One problem encountered was the availability of classroom teachers to participate. In some cases, teachers were so pressed for time in their regular day to day schedules that they had difficulty breaking away to participate in the field activities. This was due mainly to the type of schedule Etna High has that does not allow a block of time for students or teachers to participate in such activities without losing out on other class work. It is expected that the schedule will change next year due, in part, to the importance of experiential learning opportunities.

The money remaining in the budget because of needing fewer substitutes for teachers was dedicated to equipment and equipment storage for the school's present and future Natural Resource Academy, science and math classes.

Although a second fish screen was not constructed as projected, materials were bought for one which can be constructed under this year's small supplemental program (funds provided by CDFG).

Sue was very instrumental in developing the Natural Resource Academy curriculum, which is now being taught at Etna High. This will be an ongoing ROP program thanks, in great part, to Sue's efforts, not only in this educational program, but also in such past programs such as the SEAMS project. That is, after all, the goal of these educational programs, that they lead to buy-in by the school and the community. It would not have happened without Sue and the funding provided by the US Fish and Wildlife Service.

Etna Union High School District
Watershed Education Program
1998-1999

ABSTRACT #2

by Jennifer Davis Marx

The Etna Union High School District Watershed Education Program has been implemented for the most part by Sue Maurer, Program Coordinator. The Program included two teacher trainings and seventeen activities for students, most of which included field experience linked to regular class curriculum in several classes, including various sciences, math and special education.

- Teacher training: Aquatic Incubator Training and Winter Ecology
- Student activities:
  - Pre- and Post Student Surveys
  - Participation in Three Community Workshops: Riparian Roundtable, Properly Functioning Condition Workshop, Fish Faire
  - Geology Field Trip with USFS geologist and hydrologist
  - Measurement of Cross-sectional Profiles
  - McNeil Sediment Sampling
  - Water Temperature Monitoring
  - Hatchery Visit and Work
  - Fall Chinook Spawning Ground Survey
  - Water Quality Monitoring with Bureau of Reclamation chemist
  - Snow Survey with USFS personnel
  - Visit to local tree nursery, CalForest
  - Riparian Planting Inventory and Field Work
  - Fish Screen Construction
  - Sediment Tour
  - Development of HomePage for Etna High Watershed Education

Despite a late start due to funding delays, Sue accomplished all the objectives of the program and then some. It was an ambitious to start with, in that there were many field activities and many players to coordinate. Sue managed to accomplish all the proposed student field activities in one form or another and many additional activities were included as the opportunities arose, such as the snow inventory. Seventeen student activities, some of them repeated ones, were accomplished in all. Although the teachers were able to attend trainings, their job shadowing opportunities were reduced by the late start of the program.

One problem encountered was the availability of classroom teachers to participate. In some cases, teachers were so pressed for time in their regular day to day schedules that they had difficulty breaking away to participate in the field activities. This was due mainly to the type of schedule Etna High has that does not allow a block of time for students or teachers to participate in such activities without losing out on other class

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The money remaining in the budget because of needing fewer substitutes for teachers was dedicated to equipment and equipment storage for the school's present and future Natural Resource Academy, science and math classes.

Although a second fish screen was not constructed as projected, materials were bought for one which can be constructed under this year's small supplemental program (funds provided by CDFG).

Sue was also very instrumental in developing the Natural Resource Academy curriculum, which is now being taught at Etna High. This will be an ongoing ROP program thanks, in great part, to Sue's efforts, not only in this educational program, but also in such past programs such as the SEAMS project. That is, after all, the goal of these educational programs, that they lead to buy-in by the school and the community. It would not have happened without Sue and the funding provided by the US Fish and Wildlife Service.

Etna Union High School District
Watershed Education Program
School Year 1998-1999

Final Report
Submitted to the Siskiyou Resource Conservation District
by
Sue Maurer, Program Coordinator
September 25, 1999

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Introduction

The Etna Union High School District Watershed Education Program funded by the USFWS, Klamath River Restoration Act accomplished the objectives listed below during the 1998-1999 school year, as identified in the grant contract. The following report addresses these accomplishments.

- To develop in students a stewardship ethic for the watershed and fisheries through participation in gathering and processing of data and restoration work in the Scott River Watershed.

- To contribute to public awareness about anadromous fish habitat restoration and recovery of a river ecosystem through dissemination of information by partnering with the RCD and CRMP and sharing of student projects with the public at large.

- To improve the technology, math and science knowledge and skill levels, as well as the problem solving skills of high school students in Etna High School District.

- To increase the opportunities for Etna Union High School District teachers to use technology, math and science applied to "real life" community projects.

- To initiate the development of a Career Pathway in Natural Resources at Etna Union High School District.

- To develop a HomePage for information exchange.

Participants

Support was provided by the Siskiyou Resource Conservation District staff, the Scott River Watershed CRMP, AmeriCorps: Watershed Project and the Watershed Stewards Project, Siskiyou County Office of Education, the natural resource professionals from the US Forest Service, the CA Department of Fish and Game, the Natural Resource Conservation Service, the Bureau of Reclamation, the US Fish and Wildlife Service, as well as many community volunteers and private landowners. The success and sustainability of this program is due to these partnerships and to the commitment of the teachers to reach out beyond the classroom. Because of this effort, the students of the Scott River Watershed have become an integral part of the restoration effort taking place within their watershed.

The approach to developing a watershed education program that is sustainable and meets the needs of the Etna Union High School District staff and students consists of the following components:

- Provide teacher training opportunities during the summer and throughout the school year for the participating staff.

- Embed the program within the school curriculum by linking the field experiences to the concepts being taught in the classroom.

- Provide field opportunities where students are actively participating in "real" restoration projects and monitoring activities.

- Utilize state-of-the-art methodology and technology for communication and for field work.

- Develop partnerships with natural resource professionals.

Educators

Students and teachers from both high schools within the Etna Union High School District, Etna High School and Scott River High School, participated in this project. . A shift from the originally designated teachers occurred and the program adapted to meet the needs of the new teacher participants. There was good administrative support by the new principals at both Etna High School, Brian Bristol, and Scott River High School, Mark Evans, for this program. Substitute teacher funding and transportation support was shifted to include Scott River High School, which is within the Etna Union High School District.

Participating teachers included:

Etna High School
Bill Birch, math
Tom Ball, science
John McGonigol, science
Jim Isbell, agriculture
Carl Smith, drafting
Carol Lampert, computers
Jennifer Kausch and Melanie Smith, RSP

Scott River High School
Ken Fowle, math and science

Program Coordinator

Considerable preparation and planning went into the development and coordination of the watershed education program with teachers from both Etna High School and Scott River High School, the natural resource professionals and the CRMP/RCD staff over the course of the 1998-1999 school year. The Program Coordinator provided the link between the community at large and the schools. In addition to working with the teachers, the Coordinator supervised the AmeriCorps, Service Learning Coordinator, participated in most of the field activities, provided out reach to the community through newspaper interviews and provided periodic reports to the Scott River Watershed CRMP and Siskiyou RCD and to the Etna High School School Board and completed the reporting required by this grant program.

Meetings seeking long-term funding and discussions of institutionalizing the watershed education program took place throughout the year with the Program Coordinator, the principal and key teachers. A proposal was written and successfully adopted by the Etna

Union High School School Board, approving a Natural Resources ROP (Regional Occupational Program) for the 1999-2000 school year. This course will be taught for three periods in the afternoon each day, providing the forum for a comprehensive natural resources program. This is described in further detail below.

AmeriCorps, Watershed Project, Service Learning Coodinator

The AmeriCorps member is the strongest link between the students and the teachers involved in the watershed education project. The role of the AmeriCorps member in the success of this program cannot be over emphasized. Ted Hermanson, served the students, teachers and community members of the Scott River Watershed in this role during the 1998-1999 school year.

Weekly meetings took place between the Program Coordinator and the AmeriCorps member, throughout the year. Logistics of field trips, classroom presentations and assistance in the classroom were discussed. In addition, Ted set up an equipment management scheme at each school site, working together with students to inventory and house the field equipment. The storage facility at Etna High School still needs some work, but the location at Scott River High School is now functional. Ted took the initiative to begin the planning phases of a community service project with the City of Etna. Both the Etna City Park and the corner lot at the entrance to the community have potential for student landscaping projects. Ted met with the individuals responsible at the City level and has set the stage for community service work in the future.

Several classroom presentations, organized by Ted took place throughout the school year. The topics included: "What is a Watershed", "The History of the Scott River Watershed", and "Issues within the Scott River Watershed". (See the agenda for the "Issues" presentation in Appendix). Most of the classes of the teachers involved in the program were reached with these presentations. In addition, Ted prepared a Watershed Education bulletin board in the main hallway, which had photos of students in the field participating in the various projects mentioned below. The enthusiasm of the students and teachers was definitely increased by Ted's energy and support on a regular basis.

Teacher Training and Workshops

During the early part of the 1998-1999 school year, the participating teachers met for the purpose of planning the program. On Friday September 11, 1998 a "Kick-Off" BBQ at Etna City Park was held with teachers and natural resource partners. The following day, September 12,1998, the teachers met for the day to plan the program for the year. (Agenda attached in Appendix).

Throughout the school year, the Program Coordinator met with the teachers on a regular basis to provide curricular support and to plan the details of the field activities. It was found that one-on-one meetings with the teachers were more effective than trying to bring all the teachers together at one time. Consequently, each teacher spent ½ day in the fall and again in the spring meeting with the Program Coordinator. On these days, each

teacher took the remaining ½ day to plan their programs. This release time was made possible by the hiring a substitute teacher supported by this grant funding. Short meetings during lunch or after school were also held. Providing this on-going support to the teachers is an important part of a successful program.

Winter Ecology Teacher Training

Mr. Birch and Sue Maurer, Program Coordinator attended an all day winter ecology teacher training sponsored by the Siskiyou County Office of Education at the Mt. Shasta Nordic Center on January 14, 1999. Instructor Mellen Colberg taught the group about snow science and about the programs offered to teachers and their classes, including wildlife tracking, forest ecology and birds.

Aquarium Incubator Teacher Training

Ken Fowle, Scott River High School and Melanie Smith, Etna High School were trained by the Program Coordinator in the "Aquarium Incubator Program", giving them the background, curriculum and skills to raise salmon and trout in their classrooms with their students. This grant also provided the necessary aquarium equipment to implement this project.

Job Shadowing

Job Shadowing is an opportunity for teachers to "shadow" natural resource professionals in the field in order to learn applications of math, science and technology skills that are actually used. This background and first hand experience helps the teachers link the concepts they are teaching in the classroom to the "real" world. Ideally this activity should happen over the summer, when teachers have time. Unfortunately the timing of this grant did not allow for this to happen. Teachers were encourage to Job Shadow during the school year, but this turned out to be unrealistic. Hopefully, future opportunities will exist for this important staff development activity to occur.

Natural Resource ROP Course Development

It is felt by most of the staff and administration that the most successful and sustainable watershed education program at Etna High School would be one where a natural resource course exists. Students would enroll in this course and the difficulties experienced in having students gone from school for an entire day and missing other classes would be eliminated. Long term sustainability of watershed education in the District was actively addressed during the school year. Several meetings took place with faculty members, principal and program coordinator to develop an Applied Environmental Sciences Academy@ at Etna High School, supported by State Dept. of Education and also by the Regional Occupational Program (ROP). A proposed course curriculum was developed and was presented to the Etna High School District School Board at the December and February meetings. It was approved at both the District and County School Board levels. The new program will commence beginning in the 1999-2000 school year.

Student Surveys

A pre and post program student survey was sent out to all students in the designated teacher's classes (a copy is attached). The purpose of this survey was to evaluate student learning as a result of this program. At best, surveys are difficult to analyze. At the high school level it is even more difficult to draw conclusions due to the lack of seriousness taken by students, in both pre and post survey. However, in general the initial survey showed very little understanding of the Scott River Watershed prior to the start of the program. The responses reviewed in the post- program evaluation indicate a much deeper understanding of watershed function, geography and current issues, as well as an increased interest in pursuing natural resource related occupations.

Student Field Activities

The foundation of the watershed education program is to involve students and teachers in the "hands-on, real world" of watershed restoration. Linking with the restoration activities of the natural resource professionals within the Scott River Watershed, students and teachers gained valuable exposure to this local effort and became a part of the process. The long range effects of this experience is difficult to measure, but a sense of respect and stewardship for our natural resources was noticeable over the course of the school year. As new field opportunities became available some changes from the original proposal took place in order to stay current with the latest restoration and monitoring activities occurring within the watershed. A few of the activities that were originally proposed in the grant were no longer viable, so these were omitted from the program. The following field activities took place during the 1998-1999 school year:

CRMP/RCD Sponsored Workshops

Selected students from Etna High School participated in the following community workshops:

9/18/98	Riparian Roundtable- CRMP
9/29-30/98	Properly Functioning Condition Workshop

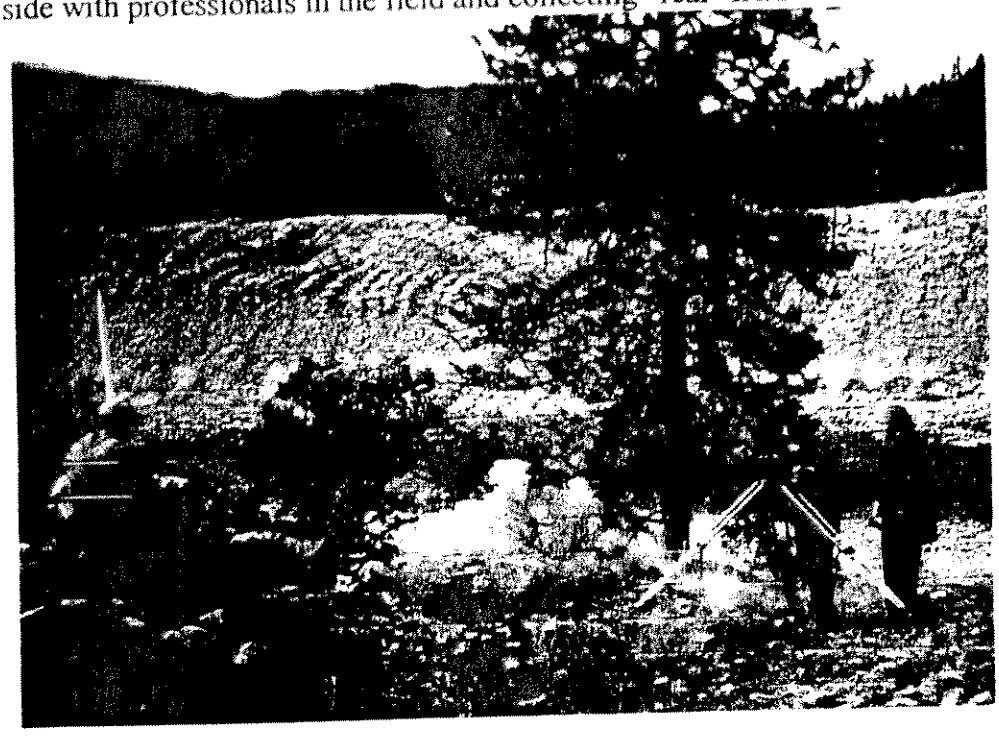
Geology Field Trip

Students from Mr. Ball's physical science class and Mrs. Kausch's class joined USFS personnel, Polly Haessig, Geologist and Sharon Koorda, Hydrologist, in an all day field trip exploring the geology and geomorphology of the Scott River Watershed on February 16, 1999. Students especially enjoyed the "hands-on" nature of this field trip.

Cross Sectional Profiles

On September 22,1998 students from Mr. Birch's, CPM 3 (math) classes did Cross-Sectional Profiles on Johnson Cr. Students learned to use the levels and leveling rods and to record data accurately. Four sites on Johnson Cr. had been previously established so students were able to compare the profiles from previous years and see the changes occurring over time.

A student from Scott River High School spent the day on September 28, 1998 with Siskiyou RCD and NRCS staff assisting with Cross-Sectional Profiles at one of the monitoring stations on the Scott River. This was a valuable experience working side by side with professionals in the field and collecting "real" field data.



McNeil Sampling

Students in Mr. Birch's freshman math classes sieved gravel samples in the classroom collected by the USFS from various sites within the Scott River Watershed on January 13, 1999. AmeriCorps members, Ted Hermansen and Tristan Behm, along with Program Coordinator, Sue Maurer assisted in the process. Students measured the volume of graded samples by displacement.

On April 30, 1999 students from Scott River High School sieved samples previously collected on a school field trip which focused on sediment. Again, Tristan Behm and Ted Hermansen assisted.

Temperature Monitoring:

Etna High School math students are responsible for three Hobo Temp units at the following locations: Hwy 3 Bridge, Ball Ranch and Willhite Ranch. The unit at Hwy 3 Bridge was downloaded in early October in the field by students. All three units were retrieved from the field in mid-November by the program coordinator and brought into the classroom for downloading by students in late November. Data was cleaned up, analyzed and input into the KRIS system. All cleaned up data sets from locations throughout the Scott River Watershed are available to students for classroom use and discussion.

Hobo Temps were calibrated by Siskiyou RCD staff in May and relaunched with the assistance of students in early June for the 1999 season. Field checks and download

occurred over the summer of 1999 by the Program Coordinator. Students will continue to monitor the three locations for the 1999-2000 school year under the supervision of the Siskiyou RCD staff.

Macro-invertebrate Collection:
On October 8, 1998, biology and agriculture students collected samples in conjunction with members of the Scott River Watershed CRMP ad hoc group using the DFG Citizen' s Monitoring Protocol (Harrington). Lorrie Bundy from the Siskiyou RCD and the program coordinator directed the students in this method. The collection site was in the middle of the valley, with permission granted by a local rancher for access. Samples will be keyed to order over the winter.

On January 25, 1999, students from Mr. Ball's biology classes keyed previously collected samples to order in the lab. Students learned the basic anatomy of the insect and the skills in using a simple dichotomous key. Students were assisted by Trudy Rilling, Siskiyou Co. Office of Education Watershed Education Specialist, Ted Hermansen, and Sue Maurer.

Irongate Hatchery Coho and Steelhead Marking
Students from Mrs. Kausch's class, under the supervision of Melanie Smith, Aide, assisted hatchery personnel each Wednesday during January and early February in marking coho salmon and steelhead fry to be released.

Fall Chinook Spawning Ground Survey and Carcass Count:
Over 20 students from Etna and Scott River High Schools participated in the survey training on October 6-7th and 9th, along with all agency personnel. Four students from Scott River High School participated in the field survey on the Scott River every Friday

and four students from Etna High School participated every Tuesday throughout the season. Students developed their skills during the season to the point of contributing as equal partners in the field, paired with agency members on a regular basis. This student volunteer effort was integral to the success of the survey.

Aquarium Incubator Project

Students in Ken Fowle's class at Scott River High School successfully raised Chinook salmon eggs in their classroom, learning first hand about fish life-cycle and habitat needs. This project worked well in conjunction with the field experiences some of the students had participating in the spawning ground survey. In the spring, trout eggs were provided to both Scott River High School and to Etna High School students in Jennifer Kausch's RSP class. Supervised by Melanie Smith, the students at Etna High School also learned about fish life-cycle and habitat needs.

Water Quality Monitoring:

On October 21st, Larry Dugan, Fisheries Biologist from Bureau of Reclamation presented a classroom discussion to chemistry students on water quality monitoring techniques and parameters monitored in the Scott River using Hydrolabs. Selected students spent the remainder of the day in the field with Larry at the monitoring site (at USGS Gauge Station), measuring DO, pH and conductivity levels with school instruments and comparing them with Larry=s instruments. Results of the monitoring by Bureau of Reclamation will be made available to the students.

In late April, students from John McGonigal's chemistry classes sampled water quality from Johnson Cr. Students measured dissolved oxygen, pH, conductivity, nitrates, and phosphates. On May 17, 1999 an all day field trip took place with selected students from Mr. McGonigals's chemistry classes. Water quality samples were taken at various locations throughout the Scott River Watershed.

Snow Surveys

On February 17, 1999, students from Mr. Birch's pre-calculus class and on April 7, 1999 students from Jennifer Kausch's RSP class skied and snowshoed into the DWR, Scott Mountain Snow Survey telemetry station. Students assisted USFS Hydrologist, Jay Power in measuring snow depth and moisture content at that station. The purpose was to validate the telemetry instruments which are recording data around the clock and sending them via satellite to the DWR web site. This information is used to predict run-off and water usage throughout the year.

Cal Forest Nursery Field Trip

Students from Mr. Isbell's and Mr. Ball's classes attended a half day field trip to the Cal Forest Nursery on February 16, 1999. They learned about the businesses operating there, the riparian planting program, under the direction of Andrew Eller and the conifer program, under the direction of Martin Reyes. Students toured the facility and learned about the phases of plant propagation and seed testing, as well as the species used in the riparian restoration projects in the Scott River Watershed.

Riparian Planting Inventory

In late October and early November, students from biology and agriculture classes spent two days monitoring a recent riparian planting project on the Tobias Ranch, just below Fay Lane. This is a CRMP/RCD project, under the direction of Andrew Eller from Cal Forest. Students were taught the inventory method, which included species identification, vigor and height measurements and data recording. These data are being input into a spreadsheet program in the computer class and will be used for project evaluation. Tom Ball, biology teacher, was in the field with his students one of the two days.

Riparian Planting Field Work

Students from Mrs. Kausch's class, supervised by Mel Smith, assisted Andrew Eller, Riparian Planting Project Leader for the Siskiyou RCD, with grubbing around plantings on the Tobias Ranch on March 22, 1999. Ted Hermanson also assisted students.

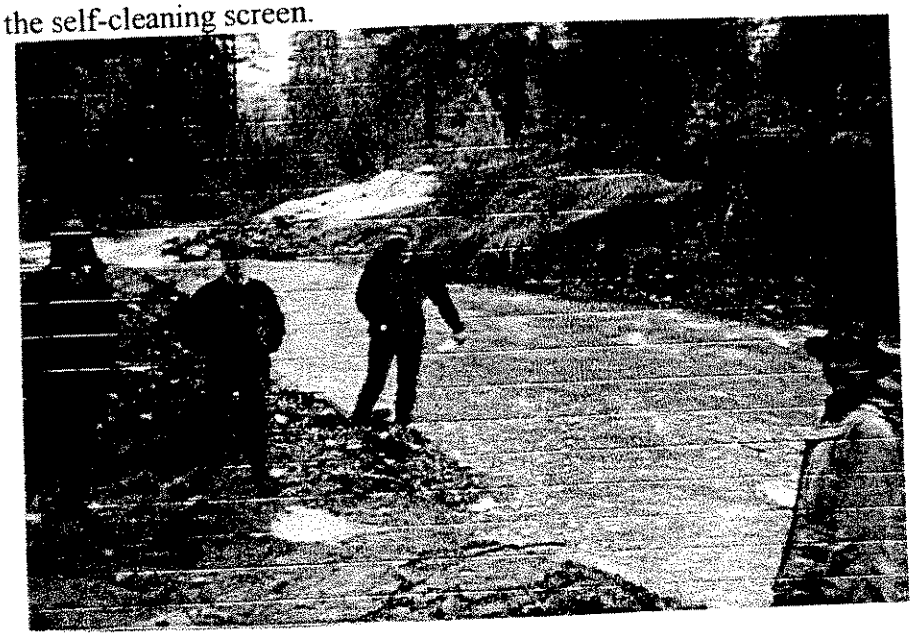
Student-Built Fish Screens:

Planning meetings with Siskiyou RCD personnel and school staff took place in late October and early November. Seven students total from math, agriculture and drafting classes were selected and on November 23rd a day in the field was spent for orientation and site assessment at a diversion on Sniktaw Creek. Students met at the RCD office and were introduced to the planning/calculations necessary. They were then shown a previously built fish screen on site at Sugar Creek. Stream flow measurements were practiced on a small tributary to Sugar Creek and on a diversion ditch. A site assessment

took place at the proposed screen site on Sniktaw Creek. Since the ditch was not opened during the time of the site visit, stream flow measurements were not taken at that time. Options for construction were discussed. The students were then assigned tasks based on class content: Mr. Birch's class - calculate size; Mr. Smith's class – draft design; and, Mr. Isbell's class – fabricate screen.

Lorrie Bundy, Siskiyou RCD Project Coordinator, worked with three of Mr. Birch's math students to calculate the design specifications of the screens to meet the NMFS fish screening criteria. Students calculated flow using standard hydraulic equations and the size of the screen was determined in order to meet the high range of flow at the site. The applications of math and the abilities of the students were exceptional parts of this project. The design specifications and a sketch were provided to Mr. Smith's drafting students. The finished drawing was given to Mr. Isbell's Ag mechanics class for fabrication. The completed screen is now available for installation by the wateruser. Considerable technical coordination was provided by Lorrie Bundy. Budgeting this time will be necessary for future fish screen projects.

Two tube-type screens were proposed for construction. However, only one screen was completed. The other water user decided to install a self-cleaning fish screen requiring concrete work and precision fabrication instead of a passive, tube screen. It is recommended that the money budgeted for the second tube screen be used as a match for the self-cleaning screen.



Scott River Watershed Sediment Tour

On April 27, 1999 students from Mr. Fowle's math and science classes took a watershed tour focusing on sediment within the watershed. Stops included Moore's Gravel operation to look at the tailings, the East Fork and South Fork of the Scott River and the French Creek Watershed. Don Howell, Siskiyou County Road Maintenance Supervisor, met the students at this last stop and talked with them about the restoration work which

has taken place within the French Creek watershed as it relates to roads and sediment sources

Watershed Education HomePage Development:

Students from Carol Lampert's computer class developed the framework for the Watershed HomePage. This is linked to the Etna High School HomePage. The Page is setup to include "Student Projects", where the content for each project can be input by the students who participated. This will include photos, project description, data and summary. With the assistance of Ted Hermansen, a few of the student projects were posted on the HomePage.. This is an on-going project which will continually need to be updated and carried on into the next school year.

Community Outreach:

The Scott River Watershed CRMP sponsored a Fish Faire on May 14-15, 1999. Students from Mrs. Kausch's class were in charge of one of the booths, "Fall Spawning Ground Surveys". These same students also helped with the county-wide Science Fun Day held at College of the Siskiyous in late spring. Several hundred elementary students participated in this event, where they were exposed to short sessions on various science activities. The high school students presented the Fall Spawning Survey techniques to the elementary students.

Budget:

Minor adjustments have been necessary in the purchasing of some of the equipment due to the more recent needs of the teachers. Some shifts in the water chemistry equipment were made. Some equipment was determined not to be needed and some additional equipment was purchased. The aquarium incubator equipment (tanks, filters, pumps, etc) was purchased in lieu of equipment that was not needed. There may be some student transportation (bus, van) monies to be carried over to the next school year (1999-2000), but they will be spent before the end of the fiscal year. The remainder of the budget will be spent as determined by the funder, USFWS, and the RCD/CRMP staff.

"In-kind" contributions exceeded those estimates in the grant proposal, especially in the student and teacher personnel costs category because of the new teachers participating and the increase in the number of students involved in the program. "In-kind equipment costs were met by the equipment already existing at the schools and/or available through the Siskiyou County Office of Education. Etna High School and Scott River High School facilities were utilized, including the computer labs, the shops, classrooms and science labs.The Siskiyou RCD office was utilized by both the AmeriCorps Service Learning Coordinator and the Program Coordinator. In addition, "in-kind" personnel costs incurred by the natural resource professionals who led field trips can be added to the total "in-kind" contributions. These costs were not included in the initial grant proposal.

Addendum
by Jennifer Davis Marx

As Project Manager, my main task has been managing the remaining funds of the project. Some were not used in various categories for various reasons explained in Sue's report. I obtained permission for an extension of the project and have been administering those funds as I had requested and received permission from the USFWS.

After consulting with Sue Maurer and all the Etna Union High School District teachers who have been involved in the project, it was evident that a priority was having a safe and convenient place to store the Watershed Education equipment. Because the school district has very limited storage space, the equipment was being stored all over the school in various places, and no one had room at all for the waders and boots used for salmon surveys. I ordered a prefab storage facility and had it leveled and shelving built to accommodate equipment. The equipment has been moved in.

Other various equipment requests of the teachers were fulfilled. One, in particular, was a very expensive GPS unit, a Trimble GeoExplorer, which will allow the teachers to stay current on how such a unit functions. It is a more current version of the GPS units which Siskiyou County Schools has available to check out. Those units can then be used by students.

Another significant item purchased is a chiller unit for aquariums for hatching fish in the classroom. This one is for the Natural Resource Academy program taught by Steve Dilley at Etna High School. He will be receiving training and the aquarium in January 2000.

Other equipment purchases were mostly for field activities in the Natural Resource program. Some classroom resources such as wildlife guides were also purchased. Those items can be noted on the invoices.

APPENDIX

EUHSD Watershed Education Program
September 1998

Student Survey

School_____ Grade_____

What is a watershed?

List three things you know about the Scott River Watershed.

What things would you like to learn about the Scott River Watershed?

What do you think you would like to do after high school?

Return by October 2, 1998

EUHSD Watershed Education Program
April 1999

Student Survey

School_____ Grade_____

What is a watershed?

List three things you know about the Scott River Watershed.

What other things would you like to know about the Scott River Watershed?

What do you think you would like to do after high school?

What watershed education field trips did you go on this year?

Which field trip did you learn the most from?

Which one was the most fun?

EUHSD
WATERSHED EDUCATION PROGRAM
1998-99

KICK-OFF BBQ
(CHICKEN & HAMBURGERS)

FRIDAY, SEPTEMBER 11, 1998
6-8 PM
ETNA CITY PARK

BRING: Your family
A favorite side dish
Beverages (lemonade provided)

Please RSVP to: Sue Maurer, Program Coordinator
P.O. Box 1101
Fort Jones, CA 96032
468-2630

RSVP-Please return bottom half by **September 8, 1998**

Name_____ # of Family Members_____

I will bring:
- ❑ Salad
- ❑ Dessert
- ❑ Chips

Agenda for Scott Valley Watershed Natural Resource Issues Presentation

I. Introduction- Plan for Period- Sue

II. Review: What is a watershed? - Ted

III. Panel:
A panel will answer student questions generated from a watershed presentation on local history. The panel consists of watershed educators (Sue Maurer, Ted Hermansen), the Scott Valley Watershed CRMP Coordinator (Jeffy Davis Marx) and a CRMP member representing the local community (Allen Kramer, Mary/or Gary Black). WHAT IS HER LAST NAME?
Similar student questions from former presentations were grouped into six categories. A pertinent sample question from each category was selected.
A panel member will read a question category, the sample question for that category and then answer it. After this, students are encouraged to ask more questions in the category to panel members. There is a time limit for each category.

Question Category/ Pertinent sample question order:

- What is a watershed?
  How many watersheds are in the Scott Valley?

- Geomorphology
  How does stream shape affect water flow and erosion?

- Biology, Ecology, Pollution
  How do watersheds affect plant life?

- History- **Show short video on interview with local elder**
  How did the flood of 1964 affect agriculture?

- Land use/ Resource Agencies/Restrictions
  Why won't NMFS leave farmers alone?

- Why do we (anyone on the panel) work with watershed projects?
  Why is the watershed so important to Ted and Sue, or AmeriCorps? (Does Ted like his job and why?)

IV. CRMP Process- Jeffy

V. Conclusion- Sue

VI. Watershed Questionnaire Handout